Air Terminations For Lightning Protection Of Structures

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Summary

The most recent knowledge on physics of discharges derived from researchers on long air gap sparks is considered to assess the conditions for the inception of upward leaders from earthed structures. The protection angles of rods or wires are determined by means of simplified physical models of lightning which takes into account the electric field on earthed objects. Shielding criteria is then defined which takes into account the risk of damage of the protected structure related with the statistical distributions of the lightning parameters involved in the phenomenon. Spacing between air terminations and protected structure to withstand induced voltage stresses is examined. Thermal effects at the impact point are summarized and practical sizing of air-termination elements are given